E&MJ METAL AND MINERAL MARKETS

WEEKLY MARKET INFORMATION ISSUED BY THE PUBLISHERS OF ENGINEERING AND MINING JOURNAL

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THIS WEEK IN THE MARKETS . . .

- **Interior Dept's Wormser says Gov't mineral market policy for freer trade.**
- **U. S. smelter copper price 43c—London spot 40½c—U. S. producers 46c.**
- **Gov't asks for lead and zinc—markets rather weak here and Europe.**

GOVERNMENT MINERALS POLICY

Assistant Interior Secretary Wormser, before the purchasing Agents Association on Wednesday, gave a speech which is widely interpreted as vigorously freer trade, anti-import duty, anti-import tax and anti-subsidy. He emphasized "restriction of public spending." He said "freer markets are essential if world trade is to flourish and make its contribution to Free World economic development . . . the Administration has stressed the need for a freer system of trade . . . give Washington a particularly wide berth when markets apparently misbehave . . . increase total Free World productivity and to reduce barriers which impede the flow of raw materials . . . more and more of the stuff digested by our factories must come from foreign nations, particularly that of mineral origin."

COPPER—domestic average 45.590c f.o.b. ref'y

Owing largely to a decrease in sales by low price sellers in the U. S. market, the domestic average price dropped little. Total sales were fairly heavy; they were lower in the latter part of the *M&MM* week. The minimum price at which sales were made by regular sellers was 43c delivered. Dealer copper may be had at slightly under this. Sales of foreign copper were down somewhat. Sales by low price sellers were low relative to the others, accounting for a slight increase in the weekly average. In part the high average price on May 21 resulted from a holiday for some firms outside the U. S.

A generally lower level of activity has become apparent in the fabricating industries here and abroad. Some brass mills are now on a four day week. Some have laid off workers. In part, this indicates lower orders from auto supply firms but others are also involved. Wire mills are holding up better—their products go more into producer durable industries which have not been hit as have the consumer durables. The situation is shown by the fabricator statistics below for the U. S. There has so far been no indication of a reversal for May.

U. S. Copper Association statistics for the U. S. copper and brass mill industries follow:

	Jan.	Feb.	Mar.	Apr.
Product sales	151,278	107,295	144,897	93,613
Product shipments	138,600	130,923	135,746	118,839
Refined stocks	376,753	388,823	392,143	413,979
Product unfilled orders	305,942	282,314	291,465	266,239

London spot bid dropped to about 40½c Wednesday afternoon. Analysts still do not find anything that will stabilize this price anywhere. Custom smelter No. 2 scrap buying price was 33½c Wednesday afternoon. Brass and bronze ingot prices were reduced. Scrap copper prices dropped.

LEAD—16c New York

Lead sales this week were 11,827 tons, the highest since January. Sellers are not interpreting high sales, much of which occurred early in the *M&MM* week, as indicating a strengthening market. It was largely an intra-monthly "seasonal." Most sellers say business is poor; there is little optimism. The Government came into the market for lead and zinc of domestic origin—it is expected to get good amounts of both. During the week, lead oxide prices were raised.

TIN—97½c, prompt, N. Y.

Tin jumped to 97½c Wednesday owing to a dock workers' strike at Penang, Malaya. This situation was partly discounted ahead.

ALUMINUM—pig 24c a lb; ingot 25.9c

Primary aluminum output reached a new high in April of 4,824 tons per day; March was about 4,706 tons. Total primary in April was 144,726 tons.

ODM announced late last week the Government would take no aluminum the last half of 1956 in connection with its guaranteed purchase contracts with primary producers. This means about 200,000 tons more for industry.

ZINC—13½c East St. Louis

Zinc sales have been low. Sellers do not expect any price changes in the immediate future. London zinc has been weak and European sales low. If the Government barter program is carried through, many factors believe there is a better chance of barter deals in zinc than lead.

QUICKSILVER—$264-$266 per flask, N. Y.

Some weakening in quicksilver was noticeable during the past week. Little business is being done.

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E&MJ METAL AND MINERAL MARKETS

WEEKLY MARKET INFORMATION ISSUED BY THE PUBLISHERS OF ENGINEERING AND MINING JOURNAL

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E&MJ Metal and Mineral Markets is published each **Thursday** with a daily quotation for copper, lead, zinc, tin, and silver. Commodities that change infrequently are quoted at **weekly** or monthly intervals.

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$600-Million Expansion Seen By Alcoa's President Wilson

Aluminum Company of America foresees a need for expansion which may involve capital expenditures of up to $600-million in the next five years, it was disclosed recently by I. W. Wilson, Alcoa's president.

Discussing the company's short-range financial plans before the New York Society of Security Analysts, Wilson also said the company was gearing both its production and sales programs to meet expanding markets, adding:

"I can assure you that Alcoa intends to strengthen its leading position in the industry in spite of competition."

In his luncheon speech at New York's Downtown Athletic Club, Wilson told the security analysts:

"As we view present market trends, and assess the demand that will be made on production facilities, we foresee the need for continuing expansion. Our present estimate, although not fully authorized, indicates possible capital expenditures of about $600-million for the five-year period from 1956 through 1960, inclusive."

Analyzing the basis for Alcoa's optimism, Wilson stated there seemed to be no practical limit to possible applications for aluminum. He pointed to the wide variety of existing uses and future possibilities for market development.

As one outstanding example, he referred to the construction industry.

"The facts are that with present costs of construction, it is no longer possible to ignore the advantages of mass production and ease of erection that aluminum panels offer. The materials and methods used in building the old Roman baths and Egyptian pyramids may have been good enough for the Romans and Egyptians, but they won't stand up to the research and development that is going on in America today."

Referring to the price of aluminum, Mr. Wilson attributed the recent increase to the need for obtaining a more favorable return on investment. (On March 28, Alcoa's base price for standard aluminum pig was increased to 24c a pound.)

"A higher average return is essential if Alcoa, and the industry as a whole, is to be in a position to develop and adequately serve expanding aluminum markets," Mr. Wilson said.

In closing, he remarked that the industry's increase in production, both planned and published, may temporarily catch up with growing use for the metal. But he predicted that a meeting of supply and demand will simply make the application of aluminum in new fields more readily possible. As for Alcoa, he stated that the company's sales department is anxious and eager to develop these new markets, and intends to take full advantage of every opportunity.

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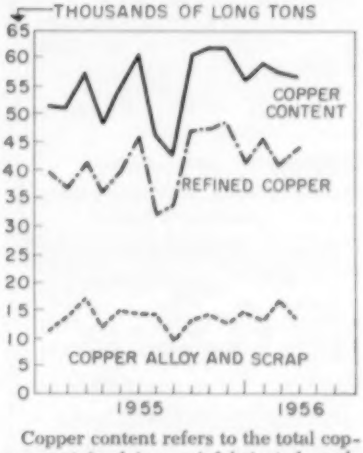
U. K. Copper Consumption



Copper content refers to the total copper contained in semi-fabricated products. It is the amount of copper included in the products produced by fabricators. These include alloyed and unalloyed sheet, tube, rods, strip, plate, castings, etc. Refined copper used is reported by fabricators. Copper content of copper alloy scrap and copper scrap was arrived at by the difference between the other two figures. All statistics are assembled by the British Bureau of Non-Ferrous Metal Statistics and released by the American Bureau of Metal Statistics.

Barter Purchase of Foreign Lead and Zinc Still Uncertain

Washington, D. C. (McGraw-Hill World News): Whether or not ODM will authorize the Agriculture Department's Commodity Stabilization Service to obtain lead and zinc of foreign origin through the barter program is still uncertain. ODM officials indicate it is not likely for the near future. They unofficially point out that there is great pressure from domestic mining interests for preferential treatment. There has been some feeling that such a foreign buying program might not be helpful to domestic producers. However, some officials have pointed out that keeping foreign material off the markets could have a decided influence in maintaining present prices. It is clear preliminary conditions have been set that will permit the Government to obtain foreign lead and zinc by barter. Almost no one in Washington believes defense or related matters will have anything to do with the final decisions —they feel much the same in connection with much of the present domestic minerals buying program.

The final decisions apparently will depend on the judgement of domestic producers and their Congressmen, as well as ODM officials, as to the effects of such a program on the market situation. If the notion catches on that it will tend to buoy up the market here as well as abroad, there are good chances barter buying of lead and zinc materials will occur. Barter acquired materials normally go into the supplemental stockpile. They may then be transferred to the other two stockpiles—the short term or minimum stockpile which is to cover emergency needs, or the long term stockpile which is supposed to provide for a lasting emergency. The latter however apparently has grown to be accepted as a device by which the Government can at least partly control certain business matters.

There are suggestions that Government officials are considering extending the domestic lead and zinc buying programs. Most estimates are that about 225,000 tons to 250,000 tons of zinc have been shipped or committed to the Government in connection with the 300,000-ton "accelerated" stockpiling program. Lead purchases may have reached 160,000 tons to 175,000 tons of the 200,000 tons called for. One official said it is about time to review the program. The Government has funds that could be used in continuing the program.

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Spanish Lead Output

MADRID (Reuters): Spain produced 61,244 tons of lead in 1955 against 56,076 tons in 1954 and 48,788 tons in 1953 according to unofficial estimates by metal trade quarters here. Of the 1955 production 28,922 tons were sold on the domestic market while the remainder went to foreign countries. The U. S. took 12,145 tons, Brazil 6,154, Finland 3,093, Norway 2,800 and Switzerland 2,200 tons.

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Miscellaneous Metals

Quotations cover wholesale lots, f.o.b. New York, unless otherwise specified.

ALUMINUM — Per lb., base price, f.o.b. shipping point, (freight allowed): 30 lb. ingot, 99% plus, 25.9; in pigs, 24c.

Base prices on aluminum ingot of higher purity: 99.75%, 26.40c; 99.8%, 26.9c; 99.85%, 27.9c.

ANTIMONY — Cents per lb., 99½% grade:

	Domestic Boxed (a) New York	Domestic Bulk (b) Laredo
May 17	36.470	33.000
May 18	36.470	33.000
May 19	36.470	33.000
May 21	36.470	33.000
May 22	36.470	33.000
May 23	36.470	33.000

(a) Boxed (224 lb.) 10,000 lb. or more but less than carload. (b) In bulk, carload, f.o.b. Laredo; boxed one-half cent extra.

BISMUTH — Per lb., in ton lots, $2.25.

CADMIUM — Per lb., delivered.

	Commercial (a) Sticks	Special (b) Shapes
May 17	$1.70	$1.70
May 18	1.70	1.70
May 19	1.70	1.70
May 21	1.70	1.70
May 22	1.70	1.70
May 23	1.70	1.70

(a) Base price. (b) Special shapes to platers.

CALCIUM—Per lb., in ton lots, cast in slabs and small pieces, $2.05.

CHROMIUM — Per lb., 97% grade, 0.5% C, $1.25; 9-11% C, $1.34. (Usually sold as chrome-metal.)

Electrolytic chromium, commercial grade, 99% min., f.o.b. Niagara Falls, N. Y., per lb.: $1.25.

COBALT—Per lb., rondelles or granules, in 500 to 600 lb. containers, $2.60; in 100 lb. containers, $2.62; less than 100 lb. containers, $2.67. Prices ex. docks or store N. Y. or Niagara Falls.

Cobalt fines, $2.60 per lb. of Co contained, f.o.b. N. Y. or Niagara Falls, standard package of 650 lb.

COLUMBIUM — No quotation.

GALLIUM — Per gram, in 1,000 gram lots, $3; 1 to 999 grams, $3.25.

GERMANIUM—Per gram, f.o.b. Miami, Okla.

	1,000 gr. lots	10,000 gr. lots
1st reduction	48½c	44½c
Intrinsic metal	53½c	48½c

INDIUM — Per oz. troy, 99.9%, $2.25.

IRIDIUM — Per oz. troy, $100@$110.

LITHIUM — Per lb. 98%, $11@$14.

MAGNESIUM — Per lb., 10,000 lb. lots: Pig ingot 99.8%, Velasco, Tex., 33¾c; Port Newark, N. J. 35.15c; Madison, Ill., 34.95c; Notched ingot, Velasco, 34½c; Port Newark 35.95c; Madison, 35¾c. Effective April 16, 1956.

MANGANESE—Per lb., delivered, 95.5% Mn, 2 in. x down, carloads, bulk, 45c.; packed, 46¼c.

Electrolytic, per lb., f.o.b. Knoxville, Tenn., with freight allowed east of Mississippi; Min. 99.9% Mn.; Carload 31.5c; ton lots, 33.5c. Eff. March 14 and Apr. 1, depending on seller. Premium for hydrogen-removed metal 0.75c, per pound.

MOLYBDENUM — Per lb., powdered carbon reduced fob Washington, Pa., $3.20.

NICKEL — Per lb., electrolytic cathodes, f.o.b. Port Colborne, Ont., contract price, 64½c, U.S. import duty included. Nickel oxide sinter, 60¾c per lb. of nickel content, f.o.b. Copper Cliff.

OSMIUM — Per oz., $80@$100, nominal.

PALLADIUM — Per oz troy, $23@$24.

PLATINUM — Per oz troy, $103@$110. Our appraisal of the average price paid by consumers, based on our estimate of quantities sold by large refiners at relatively low prices, and amounts sold by others at higher prices, is $105.

QUICKSILVER — Per flask of 76 lb. $264@$266.

RADIUM — Per mg. radium content, $16@$21.50, as to quantity.

RHODIUM — Per oz. troy, $118@$125.

RUTHENIUM — Per oz. troy, $45@$55.

SELENIUM — Commercial grade, producers quote $13.50 per lb; distributors $15.50, eff. Feb. 1.

SILICON — Per lb., minimum, 97 percent Si, maximum 1 percent Fe, crushed, carload lots, in bulk, 20½c.

SODIUM — Per lb., carload lots, in drums, 16½c.; less than carload lots, 17c.

TANTALUM — Per kilo, base price, $137 for rod; sheet, $93.

TELLURIUM — Per lb., $1.50@$1.75.

THALLIUM — Per lb., $12.50.

TITANIUM — Per lb., Grade A-1, 99.3% plus, maximum 0.3% iron, $3.25 f.o.b. shipping center. (On maximum .5% iron, $2.95.) Effective May 14, 1956.

TUNGSTEN — Per lb., 98.8% minimum 1,000 lb lots, $4.50, eff. Feb. 1. Hydrogen reduced, 99.9% plus, $5.

VANADIUM — Per lb, 100-lb lots, $3.45.

ZIRCONIUM — Per lb., sponge, $10.

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Metallic Ores

Prices in tons of 2,000 lbs., or "units" of 20 lb., unless otherwise stated.

ANTIMONY ORE—Per unit of antimony contained, 50 to 55%, $3.20@$3.35; min. 60% $3.80@$3.90; min. 65% $3.95@$4.15.

BERYLLIUM ORE — Per unit BeO contained, 10-12% f.o.b. mine, Colorado, $46@$48, depending on quantity.

Imported ore, per short ton unit of BeO, c.i.f. U.S. ports, basis 10% to 12% BeO, $36@$38. Special material is sold at about $39.

CHROME ORE—Per long ton, dry basis, subject to penalties if guarantees are not met, f.o.b. cars N. Y., Phila., Balt., etc.

Rhodesian:
48% Cr_2O_3, 3 to 1 ratio lump (b) $45.00@$46.00
48% Cr_2O_3, 2.8 to 1 ratio.. (b) $42.00@$43.00
48% Cr_2O_3, no ratio..... (b) $33.00@$35.00
South African (Transvaal):
48% Cr_2O_3, no ratio..... $31.00@$32.00
44% Cr_2O_3, no ratio..... $23.50@$24.00

Turkish (basis 48% 3 to 1):
48% Cr_2O_3, 3 to 1 ratio, lump and concentrates ..... $53@$54
46% Cr_2O_3, 3 to 1 ratio, lump and concentrates ..... $50@$51.50
Pakistan (Baluchistan):
48% Cr_2O_3, 3 to 1 ratio ..... (a) $49@$50
(a) Nominal. (b) Long term contracts.

COBALT ORE – Per lb of cobalt contained, f.o.b. Cobalt, Ont., 9% grade, $1.30; 10%, $1.40; 11%, $1.50; 12%, $1.60.

COLUMBITE – Per lb of pentoxide, $1.15@$1.35, basis 65% Cb_2O_5 and Ta_2O_5.

IRON ORE – Per long ton, Lower Lake ports. Lake Superior ore:

Mesabi non-bessemer, 51½% iron, $10.85, corrected. Old Range, non-bessemer, $11.10.

Mesabi, bessemer, 51½% iron, $11.00, corrected. Old Range, bessemer, $11.25.

Eastern ores, cents per long ton unit, delivered at furnaces: Foundry and basic, 56@62%, 17@18c.

Swedish, 60@68% (contracts), per unit, 22c plus, depending on grade, c.i.f. Atlantic ports.

Brazilian, per gross ton, 68.5% iron, f.o.b. port of shipment: $13.35. Eff. Jan. 1.

MANGANESE ORE – Indian asking prices continue high; freight rates also are high. Indian asking prices plus freight and insurance are about equal to $1.35-$1.40 per ltu, c.i.f. U. S. ports. Buyers and importers resist these prices.

Indian ore was quotable at $1.27@$1.30 per long ton unit of Mn, c.i.f. U. S. ports, duty extra, basis 46 to 48% Mn, nearby positions.

On long-term contracts for ore from various sources, 46@48% Mn, quotations nominal.

Low iron, 48% Mn (max. 2% Fe), $1.24@$1.27 per long ton unit of Mn, duty extra, nominal.

Chemical grade, per ton, coarse or fine, minimum 84% MnO_2, carloads, in drums $96; burlap bags $90.50 f.o.b. Philadelphia.

MOLYBDENUM ORE – 90-95% MoS_2 concentrate. Per lb of contained Mo, f.o.b. Climax, Colo., $1.10 plus cost of containers; f.o.b. Washington, Pa., $1.15.

TITANIUM ORE–Per gross ton, ilmenite, 59.5% TiO_2, f.o.b. Atlantic seaboard, $26.25, nominal.

Rutile, per lb, minimum 94% concentrate, 10@15c, depending on time of delivery.

TUNGSTEN ORE – Per short ton unit of WO_3, concentrates of known good analysis, basis 65%:

Foreign ore, per short ton unit of WO_3, nearby arrival, c.i.f. U.S. ports, duty extra: Wolfram, $33.00@$33.50, scheelite $33.50@$34, depending on grade.

Western high grade scheelite concentrate, $63 per unit, f.o.b. mine.

North Carolina high grade concentrate, $63 per unit, f.o.b. mine.

London, per long ton unit of WO_3, buying prices, good ore: Wolfram 264s bid, 269s asked.

E. A. GODOY & CO., INC.
CUNARD BUILDING, 25 BROADWAY
NEW YORK 4, N. Y.
GENERAL AGENTS
FOR
MINING COMPANIES

VANADIUM ORE – Per lb V_2O_5 contained, domestic, 31c, f.o.b. mine.

ZIRCON ORE (sand) – Per long ton, c.i.f. Atlantic seaboard, minimum 65% ZrO_2, $48@$49.

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Metallic Compounds

ANTIMONY TRIOXIDE – Per lb, carload lots, 50 lb bags; 27½c–29, f.o.b. shipping point; less than carload lots, 28½–30½c.

ARSENIOUS OXIDE (arsenic trioxide), refined, white min. 99%, per lb, 5½c, in barrels carload lots delivered.

COBALT OXIDE – Ceramic grade 72½ to 73½% Co, $1.96 per lb east of Mississippi and $1.98½ per lb west of Mississippi. Quotations are for oxide packed in 350-lb containers.

COPPER SULPHATE – Per lb, in carload lots, 16.7c, large or small crystals, f.o.b. N.Y., eff. March 1.

GERMANIUM OXIDE–Per gm., 27½c.

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BRASS – Cents per lb (base prices)

	Sheet	Wire	Rods
Yellow Brass	55.60	56.14	(a) 45.65
Best quality brass ..	57.73	58.27	57.67
Red brass 80%	60.15	60.69	60.09
Red brass 85%	61.79	62.33	61.73
Com'l bronze 90% ..	63.98	64.52	63.92
Gilding metal	65.64	66.18	65.58

(a) Free cutting

CADMIUM – Per lb Special shapes, to platers, $1.70.

COPPER – Per lb Sheets, over 20 in. wide, 67.13c, rolls 20 in. and under, 65.16c; Wire, bare, carload lots f.o.b. mills 51.98c.

LEAD SHEETS – Per lb, full rolled, 140 sq ft 21½.

MONEL METAL – Per lb (base prices) Standard cold-rolled sheet, 78c; cold-rolled strip, 87c. Rods, hot-rolled 69c.

NICKEL – Per lb (base prices) sheets, cold-rolled, $1.02; rods, hot-rolled, 87c.

NICKEL SILVER – Per lb, sheets, 10% 66c; 18% 69.63c; wire and rods, 10% 68.33c.

PHOSPHOR BRONZE – Per lb, sheets, 5% tin, 80.99c; wire and rods, 5% 81.49c; 10% 87.53c.

ZINC – Per lb, carload lots f.o.b. mill (base price): Sheet 24c; ribbon 21½c; plates 20@22¼c, depending on size.

ZINC DIE-CASTING ALLOY – Ingot per lb, carload lots, delivered, 18@19c.

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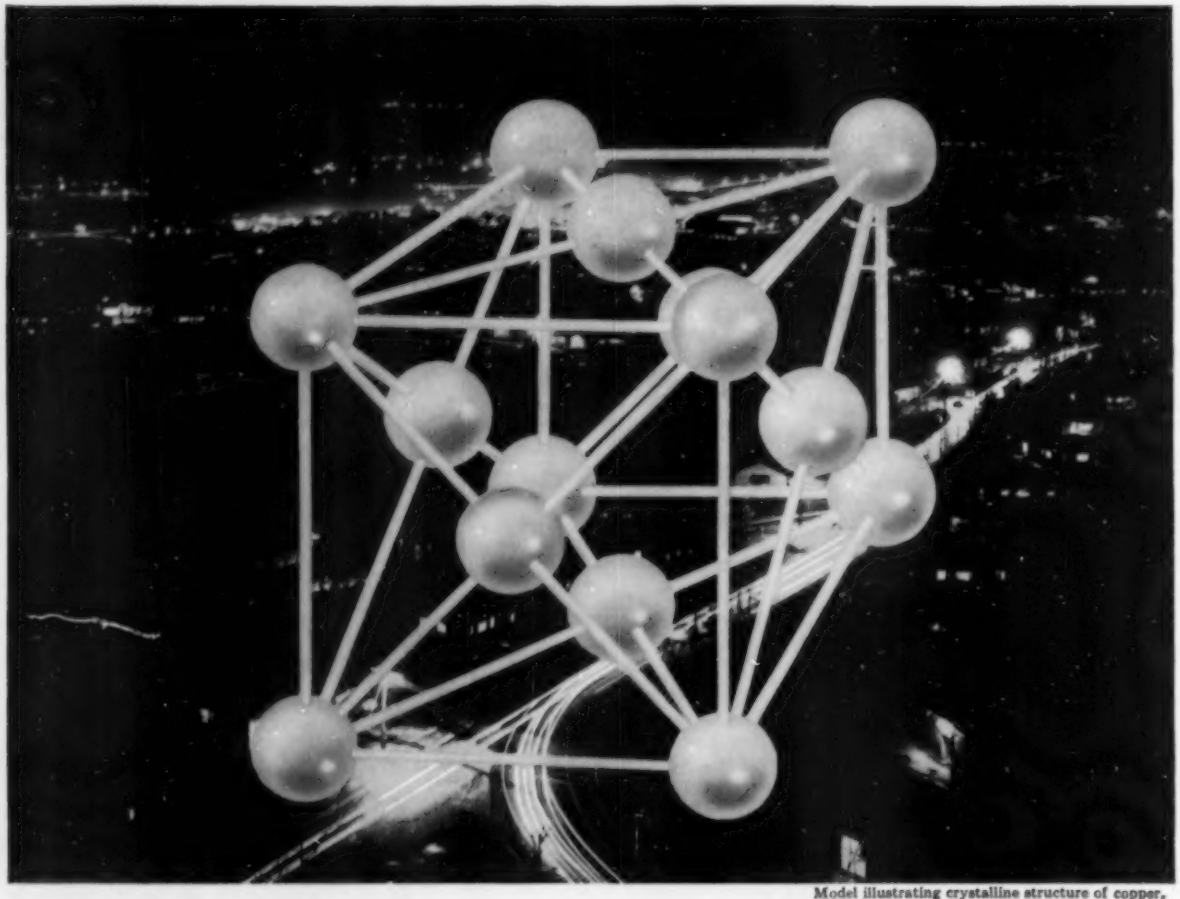
United States Gold Price

The price paid by the United States Treasury for gold purchased by the mints continued at $35 per troy ounce of fine gold, less ¼ of 1%.

Actual payment by the United States Treasury for gold in imported and domestic ore or concentrate is at 99.75% of the price quoted by the Treasury, which at present is equal to $34.9125 per oz



Model illustrating crystalline structure of copper, against a background view of Oak Ridge.

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When the Atomic Age dawned . . . copper was at hand to implement it.

It was *copper* that facilitated the building of nuclear accelerators or "atom smashers". . . the backbone of basic atomic research. The magnet of a modern cyclotron and its control circuits require some 300 tons of copper. And in the maze of analytical instrumentation, copper is indispensable.

The whole history of America is one of progress through inventions . . . and most inventions have in some way been dependent on copper.

The steamboat, with its copper boilers, ushered in a new Age of Water Transportation. Telegraph and telephone lines needed copper to make possible a new Age of Communications. Marconi's "wireless", with its coils and cables of copper, started the Age of Electronics.

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WATCH THESE TRENDS

COLUMBIUM'S High temperature applications deserve a closer look, according to Harry P. Croft, Kennecott Corp., at the Commercial Chemical Development Association meeting.

With its body-centered cubic structure it will alloy with several metals without becoming brittle (chromium has close-packed, hexagonal structure and would be okay, except it becomes brittle on alloying. Columbium gets brittle at 1800 deg F and converts to Cb_2O_5).

Columbium is about as dense as nickel (both tantalum and tungsten would be attractive for high temperature work because of their strength, but they are too heavy. Besides only powdered metallurgy techniques will alloy them). Strangely enough columbium's high temperature application in alloy steels depends on nickel. The more nickel we use, the more columbium we might use. When we can get all the nickel we want, we'll use much more columbium.

While columbium will oxidize at high temperatures, its rate is only about 5% that of molybdenum's and its oxide is tough, adherent and non-volatile. This retards further oxidation (molybdenum's big problem is catastrophic oxidation above 1200 deg F; where it forms molytrioxide).

These traits all point to columbium as the best possible high temperature alloying agent (tungsten won't work because it gets too brittle). There's plenty of columbium around; in Nigeria, the Congo, Malaya, Thailand, Brazil, Australia, Oka (near Montreal), Lake Nipissing (Ontario), and in the U. S.

Columbium has other uses besides alloying. It can be used as a canning material, according to British nuclear energy experts. It looks like columbium can hold liquid uranium at up to 1400 deg C (tungsten and tantalum are better, but here again fabricating problems put columbium ahead).

What's in the wind for columbium? Possibly, a job of beta-stabilizing weldable, high strength titanium alloy sheet, and to make our present high temperature alloy steels even tougher.

NICKEL ALLOYS containing phosphorus, silicon, chromium, manganese, molybdenum, tungsten and iron were the subject of study by Wall Colmonoy Corp. Results of this work for Wright Development Center, which includes brazing characteristics, chemical and physical properties, can be obtained from the Office of Technical Service, U. S. Department of Commerce, Washington 25, D. C. Paper is illustrated in 73 pp. Price $2.

NEW METHOD FOR MAKING ZIRCONIUM ALLOYS has been developed by the Bureau of Mines. AEC-specification alloy can be made from this low-cost, electric-arc method. Zirconium is melted under inert gas seal and small, powdered alloy pills are stirred into the melt. Even distribution of tin, iron, nickel or chromium can be made with this method. So far about 30 ingots, 300 to 500 lb each, have been produced by the Bureau. Details available from Report of Investigation 5200, Homogeneous Alloy Ingots Produced by Consumable Electrode Arc Melting, Bureau of Mines, Distribution Office, 4800 Forbes St., Pittsburgh 13, Pa.

HOT WIRE GALVANIZING process, reportedly developed in Italy, is said to be simple, low cost and radically different from conventional methods. Process saves time, labor, raw materials and power. No complicated equipment is needed, so it can be used to advantage by small companies. Only extra equipment needed is the electrical wire-heaters and a pyrometer.

Wire to be galvanized is heated throughout the process by alternating current. Wire goes through sodium hydrate degreasing and pickling. Heat of the wire warms up the solution; speeding up the pickling rate, and it seems that the presence of the electric current speeds up degreasing. Wire leaves degreasing and pickle tank covered with thin coat of caustic soda. Hot wire soon evaporates the water, leaving a thin inert coating of soda that prevents surface oxidation.

Now the wire temperature rises to 700 deg C and it enters the galvanizing tank, passing down through an inert layer of finely ground feldspar. Wire temperature on entry is above temperature of the molten zinc. When it comes out of the tank, the wire goes to coolers and winders. Six strands of wire (each 5,250 ft long) can be covered with 8 oz per sq ft zinc in less than an hour.

Process to galvanize six threads uses 10.5 kwh, 0.5 lb caustic soda and 4 lb zinc (zinc is 99.98% pure and the bath is diluted with 1% aluminum). According to the Italian magazine *Cazzaniga L*, it takes 29.6 kwh power to melt the metal needed to do the same galvanizing in ordinary galvanizing processes. Using caustic eliminates acid fumes in addition to preventing oxidation of the wire and cutting away grease.

TWO NEW ALLOYS for high temperature work have been developed by International Nickel Co., Inc., 67 Wall St., New York 5, N. Y. One is Inconel 700, age-hardenable nickel-cobalt-chromium, with 50% Ni and 30% Co. It has good strength at 1650 deg F and has mechanical properties like Inconel X at 1500 deg F. It is available only as ⅝- to 2-in. diameter hot-rolled rounds with turned or ground finish. Some cold-rolled sheet has been made for test purposes.

Second new Inco alloy is Incoloy 901, a nickel-iron-chromium alloy. It has high creep and rupture strength in 1,000 to 1,400 deg F range. This alloy compares favorably with super alloys, but it is low in strategic alloy metals. 901 has 40% Ni, is close enough to ferritic alloy steels to permit joining without allowing for thermal expansion. It can be had in bar, forge stock and sheet.

TEFLON makes a good bearing surface, according to R. J. Williams, vice president, American Metal Products Co., Detroit, Mich. American Metal has developed an automobile suspension joint, lined with Teflon. Bearing takes heavy loads easily and reduced friction by 50% in comparison with standard lubricated suspension joints.

In England, Edison Swan Electric Co., London, has perfected a method for metallizing the surface of Teflon, so it can be tinned and soldered to metal surfaces or rubberized for rubber to metal bonding.

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Ferroalloys

Ferroalloy prices are unchanged from May 3 issue.

•

Prain Characterizes Copper Price Drop as Beneficial

Ronald L. Prain, chairman of the companies in the Rhodesian Selection Trust group, said Tuesday that, in his view "the recession from the recent high level of copper prices was healthy and in the interests of the copper industry as a whole."

He was speaking in Bulawayo, Southern Rhodesia, to a meeting of the National Affairs Association.

Mr. Prain said "the danger of a serious slump in the copper industry is far less with a reasonable copper price than it would be on a rising market, which I consider one of the most dangerous things that can face the copper industry."

He said that calculations had been made "based on the lowest price of copper which any responsible authority has mentioned as being the figure which might represent the bottom of the copper market under today's conditions, namely, £240 per long ton (30c per lb)" and that, regrettable though a fall to this level would be, calculations at present costs taking it to account estimated increased production show that the Rhodesian copper industry, at a price of £240 per ton, might still be making an annual profit, before tax, of between £40-million and £50-million ($112-million and $140-million) and its exports from the Central African Federation would be worth over £100-million ($280-million).

Mr. Prain went on to say "I am on record as saying that a reasonable price, namely, one which will discourage competition by substitutes and give a fair return to mine owners, would be about £280 per ton (35c per lb) on current costs and value of the pound sterling."

Mr. Prain said that the copper industry's direct contribution to the economy of the Central African Federation in 1955 was 29% of net domestic output, 23% of net national income, 63% of exports and 37% of taxes.

The indirect contributions had been estimated at £54-million ($151-million) which is 44% of the net domestic output of the Federation.

This £54-million represents the copper industry's indirect contribution to trade, government payrolls, industry and the railways.

The total direct and indirect contribution to the Federation's economy is estimated at £154-million ($431-million).

•

Japanese Aluminum Data

Japanese aluminum statistics in long tons courtesy Daiichi Bussan Kaisha Ltd:

1956	Production	Shipments	Stock
February:			
Alumina	11,362	9,385	10,910
Primary	4,731	5,056	753
Secondary	1,079	1,086	107
March:			
Primary	5,108	4,843	1,017

Gold
Lead
Bismuth
Arsenic

Silver
Zinc
Cadmium
Tellurium

Antimonial Lead

UNITED STATES SMELTING REFINING AND MINING COMPANY

57 WILLIAM STREET SALES OFFICE NEW YORK, N. Y.

World Tin Statistics

THE HAGUE (Reuters): Malayan tin-in-concentrates output was 5,261 tons in March against 4,635 in February, while Nigerian output was 738 tons in February, according to the International Tin Study Group.

World tin metal production in February dropped to 11,800 tons from 16,800 in January. Output fell to 3,988 in Malaya and to 2,750 in the Netherlands. March output in the U. K. was 2,452 tons and in the Netherlands, 2,229 tons.

Tin stocks decreased to 69,300 tons at the end of January from 71,000 in the previous month. Non-strategic stocks in the U. S. were 31,685 tons at the end of January against 32,972 at December's end. At the end of February, stocks in Malaya were 6,100 tons and in Indonesia 3,706.

World tin consumption remained at a fairly high level and was estimated at 13,300 tons during February compared with 13,400 tons in January. In February, the U. S. consumed 5,250 tons against 5,330 in January while the U. K. consumed 2,082 and France 820 tons.

World tinplate production increased to 633,000 tons in February from 620,000 in January. In February U. S. output of 430,420 tons was slightly lower than in the previous month but that of the U. K. increased substantially to 82,100 tons. France produced 30,246 tons and Belgium 9,804 tons.

Anaconda Announces Expansion

Anaconda Co. recently indicated plans for a $384-million expansion program to be spread over five years.

Roy H. Glover, chairman of the board, also reported record first-quarter earnings more than doubling the corresponding period of 1955. For the quarter ending March 31, Anaconda reported a net income of $29,883,372 compared to $14,203,218 in 1955.

"The investments we have in mind for the next five years, in plants and properties, exceed those for the past 10 years," Glover said.

Higher earnings in early 1956 have been the result of higher copper prices, expanded copper operations and production ventures in aluminum and uranium.

Contract for Asbestos Mill

A $7,700,000 contract for construction of a large asbestos ore milling plant, to be capable of treating 5,000 tpd ore, has been let to F. H. McGraw Co. of Canada, Ltd., by Lake Asbestos of Quebec, Ltd., it has been announced by R. D. Bradford, president of this wholly-owned Canadian subsidiary of American Smelting & Refining Co.

Work will start immediately on the mill and it is expected that it will be finished in the early spring of 1958. Altogether, more than $9-million will be spent for the structure and milling machinery to be used for separating the asbestos fiber from its ore. Approximately 100,000 tons of asbestos fiber will be produced annually at the Lake Asbestos mill.

U. S. Slab Zinc Consumption

(U. S. Bureau of Mines data, in short tons, released by American Bureau of Metal Statistics)

	Jan.-Dec. 1955	Jan.-Feb. 1956	Nov. 1955	Dec. 1955	Jan. 1956	Feb. 1956
Special High Grade	473,498	81,276	45,209	43,632	43,170	38,106
Regular High Grade	104,002	17,805	8,971	10,383	9,261	8,544
Intermediate	24,939	3,916	1,739	1,955	2,047	1,869
Brass Special	73,390	16,624	7,103	8,178	8,693	7,931
Select	4,100	652	295	425	170	482
Prime Western	396,244	64,001	34,249	31,943	32,277	31,724
Remelt	2,795	494	209	239	288	206
Totals	1,078,968	184,768	97,775	96,755	95,906	88,862

Copper Scrap Consumption At 114,000 Tons in March

Consumption of copper scrap by principal users totaled 114,000 short tons in March compared with 109,000 in February, according to the Bureau of Mines. Treatment of scrap by primary producers and secondary smelters increased, whereas that of brass mills declined slightly. Old scrap consumption by all three groups rose in each of the first three months of 1956, that by primary producers 86%, in the 3-month period, by the brass mills 24%, and that by the secondary smelters 2%. The scrap used in greatest quantity by the primary producers in March, and as a rule at all times, was low-grade material. The scrap items used in greatest quantity in March at brass mills and secondary smelters were, as usual, yellow brass and composition scrap, respectively. Stocks of copper scrap at primary producers decreased 1,700 tons in March to 56,000 tons, at brass mills 1,100 tons to 43,500 tons, and at secondary smelters 1,200 tons to 28,700 tons.

Salient statistics of the secondary copper and brass industry in the United States in March 1956, in short tons:

	Jan.-Mar. 1956	Feb. 1956	Mar. 1956
Consumption (a):			
Secondary smelters	107,862	35,595	36,937
Brass mills	118,673	40,422	40,029
Primary producers	91,142	33,474	36,743
Total	317,677	109,491	113,709
Production all metals from copper-base scrap (b)			
Secondary smelters:			
Brass ingot	88,777	29,570	30,153
Refined copper	8,337	2,383	3,062
Brass mills	116,785	39,781	39,395
Primary producers	57,633	20,600	24,207
Copper in chemicals (c)	1,422	652	739
Total recovery from scrap (d)	267,716	91,167	95,679
Copper from copper-base scrap:			
Secondary smelters	76,476	25,403	26,044
Brass mills	89,200	30,277	30,346
Primary producers (e)	59,013	21,240	24,930
Exports (copper-base scrap):			
Unalloyed	(f)5,139	3,322	(g)
Alloyed	(f)8,333	5,018	(g)
Stocks (copper-base scrap) end:			
Secondary smelters	28,677	29,891	28,677
Brass mills	43,535	44,610	43,535
Primary producers	56,004	57,755	56,004

(a) Excludes consumption by foundries, chemical plants, and miscellaneous manufacturers, about 2,000 plants in all, estimated at 2,000 tons of new scrap and 11,000 tons of old scrap per month.
(b) Excludes production by foundries, chemical plants and miscellaneous manufacturers, which is estimated to be about 12,000 tons per month of secondary metal from copper and brass scrap in brass and bronze castings, chemical products, etc.
(c) Production by secondary and primary smelters.
(d) Total production of all metals from copper-base scrap by these groups, minus added alloying ingredients (refined copper, refined and scrap lead, tin, zinc, etc.) used by ingot makers.
(e) Includes copper content of copper sulfate produced from scrap.
(f) January-February only.
(g) Not available.

Consumption and stocks of purchased copper-base scrap at secondary copper smelters in March 1956, gross weight in short tons:

	Opening stocks	Receipts	Consumed (a)	End stocks
No. 1 wire	2,305	3,678	3,613	2,370
No. 2 wire	3,190	3,668	3,513	3,345
Composition	4,353	9,211	9,806	3,758
Yellow brass	6,310	6,506	6,520	6,296
Auto radiators	4,369	5,062	5,339	4,092
Bronze	1,952	2,740	2,983	1,709
Low-grade scrap	6,244	4,288	4,413	6,119
Others	1,168	570	750	988
Total copper-base scrap	29,891	35,723	36,937	28,677

(a) At secondary copper smelters the scrap used is chiefly old or obsolete equipment in alloy form, which remains in alloy form in the product.

•

February Slab Zinc Use Declined 7% to 89,000 Tons

Slab zinc consumption in the U. S. during February declined 7% to 88,900 short tons, the lowest level since August 1955, according to the Bureau of Mines. Decreases in the use of slab zinc ranged from 1% at galvanizing plants to 14% at plants manufacturing zinc-base alloys. The 31,300 tons of zinc used in alloys was the lowest monthly rate since August 1955 and was 19% below the all-time high of 38,600 tons used in November 1955.

Mine production of recoverable zinc was 41,900 tons during February or 2% above the January total of 41,000 tons.

Consumption of slab zinc in February 1956 by products according to grade, in short tons:

	Special High grade	High grade	Intermediate	Prime Western
Galvanizing	1,781	1,573	790	33,558
Brass & bronze products	3,631	5,715	82	3,250
Zinc-base alloys	31,181	21	3	69
Rolled zinc	858	947	962	1,116
Zinc oxide	...	145	...	1,698
Other	655	143	32	652
Total	38,106	8,544	1,869	40,343

Consumers stocks of slab zinc by industry for the end of January and the end of February 1956, in short tons:

	Stocks Jan. 31	Stocks Feb. 29	% change
Galvanizers	61,218	61,665	+ 0.7
Brass mills	17,917	17,355	− 3.1
Die casters	35,967	38,406	+ 6.8
Rolling mills	5,463	5,758	+ 5.4
Oxide plants	306	404	+32.0
Other	1,643	1,564	− 4.8
Total	122,514	125,152	+ 2.2

Consumers receipts and consumption of slab zinc during February 1956, in short tons:

	Received Feb.	Consumed Feb.
Galvanizers	38,149	37,702
Brass mills	12,116	12,678
Die casters	33,713	31,274
Rolling mills	4,178	3,883
Oxide plants	1,941	1,843
Other	1,403	1,482
Total	91,500	88,862

Consumption of slab zinc in January and February 1956 according to products made by industry groups, in short tons:

	Jan.	Feb.
Galvanizers:		
Sheet & strip	19,886	18,726
Wire & wire rope	3,721	4,005
Tube & pipe	6,037	6,338
Fittings	796	882
Job galvanizing	1,942	1,841
Other	5,766	5,910
Total	38,148	37,702
Brass mills:		
Sheet, strip & plate	6,107	6,076
Rod & wire	4,458	4,002
Tube	1,318	1,258
Castings & billets	434	445
Copper-base ingots	719	842
Other copper-base products	61	55
Total	13,097	12,678
Die casters:		
Die castings	35,641	30,490
Stamping dies & zinc-alloy rod	788	679
Slush & sand castings	125	105
Total	36,554	31,274
Rolling mills (rolled zinc)	4,442	3,883
Oxide plants (zinc oxide)	2,029	1,843
Other	1,636	1,482
Total reported	95,906	88,862
Estimated unreported consumption	500	900
Total (a)	96,406	89,762

(a) Includes estimated consumption of plants reporting on annual basis only.

•

New Austrian Refinery Turns Out 99.99% Zinc

Vienna (McGraw-Hill World News): Zinc with a purity of 99.99%, is now being turned out in Austria's new zinc refinery at Arnoldstein, Carinthia Province. This plant, owned by the nationalized "Bleiberger Bergwerks Union," started regular operation after a four-month test run. In order to utilize the 11,000 long tons capacity right from the start, Austria bought Central American zinc which she plans to re-export after refining. The "BBU" will thus be the first European enterprise to ship refined zinc to Panama.

The Bleiberger Bergwerks Union has received a request from the Spanish government to process Spanish zinc on a test basis. Spain plans to build a plant identical with the Austrian Arnoldstein model and thus wants to gain experience in the treating of Spanish zinc agglomerates. It is believed that Spanish engineers and technicians will be invited soon for a multi-month training course in the Carinthian mill.

Austria thus has entered international competition (especially against Belgium) in this field. Its plant, said to have the technically most advanced design, produces pure zinc that has only a few hundredths of a percent of lead content. The completion of the BBU plant in Arnoldstein also means the end of processing Austrian zinc ores in Belgium and saves Austria the re-import of the refined material.

Output at the (also nationalized) copper mill of Brixlegg (Tyrol province) has increased by 5.7% from 1954 to 1955. During the past year, Brixlegg turned out 9,600 long tons of cathode copper.

Australian Metal Output

CANBERRA (Reuters): Australian lead output in December 1955 was 15,430 tons against 17,310 in November and 18,160 tons in December 1954, according to the Commonwealth Bureau of Statistics. Production of zinc was 8,980 tons against 8,820 and 8,790 tons respectively and that of copper 1,990 tons against 2,330 and 3,300 tons respectively.

Final figures for mine production of lead in 1955 are expected to be about the 285,000-ton level recorded in 1954. Refined lead output for the year, estimated at just under 190,000 tons, would be some 10,000 tons below 1954 performance.

Output of refined zinc at Risdon, Tasmania for the year was expected to be about 100,000 tons, based on a production of 83,000 tons to the end of October. Exports of zinc concentrates for the first three quarters were 167,900 tons against 212,500 tons in the comparable period a year earlier. Exports of refined zinc were 26,160 tons and 30,800 tons in the same periods. The decline is attributed to lack of shipping space.

•

Malayan Tin Production

KUALA LUMPUR (Reuters): Malayan production of tin-in-concentrates during the first quarter of the year amounted to 15,434 tons according to the Quarterly Bulletin of Statistics of the Mining Industry.

The Bulletin stated that the erratic price fluctuations evident in February appeared to have abated by the end of the quarter. The low production recorded for the month of February was caused, the Bulletin added by labor discussions, the Chinese New Year festivities and the shorter number of working days during the month.

Smelter assay figures indicate that the average assay figure of 75.31 adopted for 1955 should be increased to 75.41 for 1956, the Bulletin said.

Singapore and the Federation of Malaya exported 5,687 tons of tin metal during April compared with March 6,503, according to the Registrar of Malayan Statistics.

Of the April export total the U. K. took 140 tons, the U. S. 2,550, Continent of Europe 1,354, British possessions 769 and other countries 874.

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Domestic Mineral Program

General Services Administration reported May 16, 1956 the following data on purchase of domestic minerals, under the Government's program to stimulate output of U.S. critical materials, through March 31, 1956. (a)

	Authorized	Delivered
Tungsten concentrates	3,000,000 stu	2,652,328 stu
Manganese ore	31,000,000 ltu	8,359,740 ltu
Chrome ore	200,000 lt	105,652 lt
Mica	25,000 st	7,965 st
Beryl ore	1,500 st	914 st
Asbestos	1,500 st	1,425 st

(a) stu–short ton unit, ltu–long ton unit, st–short ton, lt–long ton.

STOCK AND SERVICE CENTERS FOR "INCO" NICKEL

The following are sources of supply for INCO primary nickel and for technical service on the use of INCO primary nickel for alloying purposes.

ATLANTA 3
J. M. Tull Metal & Supply Co.
265 Marietta Street, N. W.
Tel. Alpine 3871

BALTIMORE 1
Whitehead Metal Products Company, Inc.
4300 East Monument Street
Tel. Eastern 7-1200

BUFFALO 7
Whitehead Metal Products Company, Inc.
2128 Elmwood Avenue
Tel. Bedford 3100

CALGARY, ALTA.
Wilkinson Company, Ltd.
630 8th Avenue, West
Tel. 691427

CAMBRIDGE 39, MASS.
Whitehead Metal Products Company, Inc.
251 Albany Street
Tel. Trafalgar 6-4600

CHICAGO 23
Steel Sales Corporation
1440 South Pulaski Road
Tel. Bishop 7-7700

CINCINNATI 29
Williams and Company, Inc.
3211 Fredonia Avenue
Tel. Capitol 1-3000

CLEVELAND 14
Williams and Company, Inc.
3700 Perkins Avenue
Tel. Utah 1-5000

COLUMBUS 8, OHIO
Williams and Company, Inc.
851 Williams Avenue
Tel. Automatic 4-1623

DALLAS 9
Metal Goods Corporation
6211 Cedar Springs Road
Tel. Elmhurst 3171

DENVER 2
Metal Goods Corporation
2425 Walnut Street
Tel. Acoma 2-5891

DETROIT 10
Steel Sales Corporation
5151 Wesson Avenue
Tel. Tyler 6-3000

EDMONTON, ALTA.
Wilkinson Company, Ltd.
9215 103rd Street
Tel. 3-5834

GRAND RAPIDS 2
Steel Sales Corporation
236 Federal Square Building
Tel. Grand Rapids 9-3981

HARRISON, N. J.
Whitehead Metal Products Company, Inc.
1000 South 4th Street
Tel. Humboldt 5-3900

HOUSTON 3
Metal Goods Corporation
711 Willie Street
Tel. Central 8881

INDIANAPOLIS 16
Steel Sales Corporation
2185 N. Meridian Drive
Tel. Cherry 1535

KANSAS CITY 8, MO.
Steel Sales Corporation
2201 Grand Avenue
Tel. Victor 7270

LOS ANGELES 23
Pacific Metals Company, Ltd.
2187 South Garfield Avenue
(Corner Washington Blvd.)
Tel. Raymond 3-5431

LOUISVILLE 3
Williams and Company, Inc.
1109 South Preston Street
Tel. Clay 7781

MILWAUKEE 9
Steel Sales Corporation
2400 West Cornell Street
Tel. Hilltop 2-2020

MINNEAPOLIS 13
Steel Sales Corporation
601 Harding Street, N. E.
Tel. Sterling 1-4881

MONTREAL 28, QUE.
Robert W. Bastrom, Limited
2075 West Broadway Avenue
Tel. Hunter 8-2511

NEW HAVEN 13
Whitehead Metal Products Company, Inc.
250 Church Street
Tel. Spruce 7-2345

NEW ORLEANS 12
Metal Goods Corporation
632 Julia Street
Tel. Canal 7271

NEW YORK 14
Whitehead Metal Products Company, Inc.
303 West 10th Street
Tel. Watkins 4-1500

PHILADELPHIA 40
Whitehead Metal Products Company, Inc.
1815 Hunting Park Avenue
Tel. Baldwin 9-2323

PHOENIX
Pacific Metals Company, Ltd.
909 North First Street
Tel. Alpine 4-0369

PITTSBURGH 33
Williams and Company, Inc.
901 Pennsylvania Avenue
Tel. Cedar 1-8600

PORTLAND 12, ORE.
Eagle Metals Company
2136 North Randolph Avenue
Tel. Atlantic 8-5201

ST. LOUIS 10
Steel Sales Corporation
4545 McRee Avenue
Tel. Prospect 1-5255

SALT LAKE CITY 4
Pacific Metals Company, Ltd.
261 West 5th South
Tel. Davis 2-3681

SAN DIEGO 1
Pacific Metals Company, Ltd.
1535 India Street
Tel. Belmont 4-3255

SAN FRANCISCO 10
Pacific Metals Company, Ltd.
1100 Nineteenth Street
Tel. Mission 7-1104

SEATTLE 4
Eagle Metals Company
4755 First Avenue South
Tel. Lander 9974

SPOKANE 36
Eagle Metals Company
Helena at Broadway
Tel. Keystone 0166

SYRACUSE 4
Whitehead Metal Products Company, Inc.
207 W. Taylor Street
Tel. 74-4061

TOLEDO 13
Williams and Company, Inc.
946 Kane Street
Tel. Klondike 8661

TORONTO 2, ONT.
Alloy Metal Sales Limited
161 Fleet Street East
Tel. Empire 3-9421

TULSA 3
Metal Goods Corporation
302 North Boston Street
Tel. Tulsa 4-4101

VANCOUVER, B. C.
Wilkinson Company, Ltd.
190 West Second Avenue
Tel. Emerald 2121

WINNIPEG, MAN.
Alloy Metal Sales Limited
56 Mountain Street
Tel. 93-1141

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Philippine Copper Smelter

MANILA (Reuters): A new steel mill and copper smelter will be erected here for the Samar Mining Co. and Marinduque Iron Mines, Manuel Elizalde, the president, said here on his return from business conferences in Tokyo.

Elizalde said the steel mill and copper smelter, the first of their kind in the Philippines, might be set up under the Philippine-Japanese reparations agreement.

He said that while he was in Tokyo he had also reached a tentative long-term agreement for the shipment of iron and copper by his concerns to Japanese industrial users.

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Record High March Copper Production at Domestic Mines

The production of recoverable copper at domestic mines established a new monthly record of 98,045 tons and refined copper prices reached new peaks in March, according to the Bureau of Mines.

Output of smelters and refineries and consumption of refined copper also showed notable gains over the preceding month. Refined copper production from secondary materials was the largest in many years and 19% more than that of February.

Salient statistics of the copper industry, in the United States, in short tons:

	Jan.-Mar. 1956	Feb. 1956	Mar. 1956
Production:			
Primary—Mine	281,746	89,182	98,045
Smelter:			
Domestic	292,492	91,116	105,827
Foreign	33,330	11,934	12,363
Total	325,822	103,050	118,190
Refinery:			
Domestic	281,363	91,071	97,040
Foreign	83,216	30,845	27,992
Total	364,579	121,916	125,032
Secondary	65,970	22,983	27,269
Imports refined	31,691	18,183	.....
Exports refined	26,620	13,319	.....
Stocks end:			
Refined	36,500	27,900	36,500
Blister	209,000	197,000	209,000
Consumption:			
New refined	250,700	129,900	.....
Total refined	431,723	138,997	146,717

Copper produced by primary smelters in the United States from domestic and foreign primary, and from secondary materials, 1954-55 (monthly averages) and 1956, by months, in short tons:

	Domestic	Foreign	Secondary	Total
1954	69,532	9,293	6,979	85,804
1955	83,942	8,268	4,463	96,673
1956:				
Jan.	94,549	9,033	4,250	107,832
Feb.	91,116	11,934	8,240	111,290
Mar.	104,577	12,363	9,141	126,081

Refined copper produced at primary plants in the United States, 1954-55 (monthly averages) and 1956, by months, in short tons:

	Primary material	Scrap
1954	100,993	14,995
1955	111,872	17,213
1956:		
Jan.	117,631	12,826
Feb.	121,916	20,600
Mar.	125,032	24,207

Refined copper produced in the United States from scrap, 1954-55 (monthly averages) and 1956, by months, in short tons:

	Primary	Secondary	Total
1954	14,995	2,170	17,165
1955	17,213	2,838	20,051
1956:			
Jan.	12,826	2,892	15,718
Feb.	20,600	2,383	22,983
Mar.	24,207	3,062	27,269

Consumption of refined copper in the United States, February-March 1956, in short tons:

	Wire mills	Brass mills	Secondary smelters	Total
February:				
Cathodes	600	8,728	111	9,439
Wire bars	69,903	6,756	...	76,659
Ingots	1,335	11,668	128	13,131
Cakes	.....	20,592	2	20,594
Billets	.....	15,959	...	15,959
Other	.....	.....	215	215
Total	71,838	63,703	456	138,997
March:				
Cathodes	1,224	9,923	185	11,332
Wire bars	80,135	6,430	...	86,565
Ingots	1,319	11,132	98	12,549
Cakes	.....	16,855	1	16,856
Billets	.....	16,202	...	16,202
Other	.....	.....	213	213
Total	82,678	60,542	497	146,717

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Malayan Tin Shipments

SINGAPORE (Reuters): Tin shipments from Singapore in April amounted to 1,923¼ tons compared with 1,595½ tons in March, according to the Straits Trading Co. Shipments from Penang totaled 3,821¼ tons against 4,817½ tons in the previous month.

April shipments from Singapore and Penang were as follows, in long tons:

	Singapore	Penang
U. K.	30	25.25
U. K. options	100	5
U. S.	610	1,940
Europe	613.5	720
Canada	25	105
Japan	140	420
Pacific	125.75	10.75
India	29	428.75
South America	159.5	5
Africa	...	97.5
Australasia	83.25	55
Middle East	7.25	9

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New African Copper Mine

LUDERITZ (Reuters): The production of copper has begun at a new mine in South West Africa, the first in the southern part of the territory, it is announced by the Lorelei Copper Mines Ltd. The company reports that the first 50 tons of copper concentrates have already been shipped overseas. Two small mills are in operation and two larger mills are being installed.

The orebody contains disseminated primary copper, and is being mined by open cast methods. A preliminary estimate of the ore reserve gives a total of 20-million tons, containing ore which has so far yielded an average recovery of 0.80% of copper per ton.

E&MJ QUOTATIONS

Daily Prices of Metals

May	ELECTROLYTIC COPPER Domestic Refinery	ELECTROLYTIC COPPER Export Refinery	LEAD New York	LEAD St. Louis	ZINC Delivered (b)	ZINC East St. Louis	ALUMINUM Primary Pig 99%	TIN Straits New York	TIN 99% (a) New York
17	45.625	43.925	16.000	15.800	14.000	13.500	24.000	97.375	96.375
18	45.575	43.000	16.000	15.800	14.000	13.500	24.000	97.000	96.000
19	No Market	43.000	16.000	15.800	14.000	13.500	24.000	97.000	96.000
21	45.650	45.450	16.000	15.800	14.000	13.500	24.000	97.000	96.000
22	45.650	44.150	16.000	15.800	14.000	13.500	24.000	96.875	95.875
23	45.450	43.975	16.000	15.800	14.000	13.500	24.000	97.500	96.500
Averages	45.590	43.917	16.000	15.800	14.000	13.500	24.000	97.125	96.125
Calendar Wk. Avgs. May 14-19	45.620	43.679	16.000	15.800	14.000	13.500	24.000	97.229	96.229

(a) Nominal Quotation for tin content.

(b) Prime Western Zinc sold on delivered basis at centers where freight from East St. Louis exceeds one-half cent a pound.

The above quotations are our appraisal of the major United States markets, based on sales reported by producers and their agencies. They represent payments received by producers for the product. They are reduced to the basis of cash, New York or St. Louis, as noted. Prices in cents per pound.

Copper, lead and zinc quotations are based on sales for both prompt and future deliveries; tin quotations are for prompt delivery only.

COPPER prices, domestic, in the trade are quoted on a delivered basis, that is, delivered at consumer's plants. As delivery charges vary with the destination, the figures shown above are net prices at refineries on the Atlantic seaboard. Delivered prices in New England average 0.300c per pound above refinery basis.

COPPER quotations, foreign or export, reflect prices obtaining in the open market and are based on sales in the foreign market reduced to the f.o.b. refinery equivalent, Atlantic seaboard. On f.a.s. transactions we deduct 0.075c, for lighterage, etc., to arrive at the f.o.b. refinery quotation.

COPPER quotations are for ordinary forms of wirebars and ingot bars. The premiums on special shapes, effective in some instances on deliveries beginning Sept. 1, 1955, are: Standard ingots 0.25c per pound; slabs 0.55c and up, cakes 0.6c and up, depending on weight and dimensions; billets 1.725c and up, depending on dimensions and quality. Discount on cathodes 0.125c to 0.15c per pound.

ZINC quotations reflect sales of the Prime Western grade as well as sales of other grades when sold on a Prime Western basis. Premiums obtaining over Prime Western zinc in the East St. Louis market on the following grades, in cents per pound: Selected 0.10c; Brass Special 0.25c; Intermediate 0.5c. High Grade zinc sold on contract, delivered to the consumers' plants, commands a premium of 1.35c per pound over the East St. Louis basis for Prime Western; on Special High Grade the premium or differential is 1.75c per pound, effective Dec. 1, 1955.

LEAD quotations are for the common grade, and are based on sales of domestically refined metal sold to domestic consumers. The differential on sales in the Chicago district is 15 points under New York; for California 20 points under New York; for New England add 7½ points to the New York basis. Corroding grade commands a premium over common lead of 10 points.

ALUMINUM quotations refer to primary pig, 99%, delivered to consumers. The U. S. primary producers as well as the major exporter of primary aluminum to the U. S., quote prices delivered to consumers in the U. S. The weights are estimated on the basis of daily average primary capacity in those cases where daily sales or shipments are not available. Ingot sales by primary producers, reduced to the pig price, are included in calculating the quotation. The premium on standard ingots, 99+% is 1.9c per lb.

Note: The daily quotations for copper, lead and zinc are weighted averages of sales reported to E&MJ; weekly averages are arithmetical averages of the daily quotations; monthly averages are the arithmetical averages of the daily quotations.

Silver, Gold, and Sterling Exchange

May	Silver N.Y.	Silver London	Sterling Exchange	London Gold (a)
17	90.750	78.750	280.9196	249s. ¾d.
18	90.750	78.750	280.7589	249s. 1½d.
19		Not Quoted		
21	90.750	Holiday	280.7991	Holiday
22	90.750	78.750	280.7723	249s. 2d.
23	90.750	78.750	280.6741	249s. 2½d.
Av.	90.750	—	280.785	—
Calendar Wk. Avgs. May 14-19	90.750	—		

(a) Open market

The daily silver quotation reported by Handy & Harman, in cents and fractions of a cent per troy ounce, is the price paid by Handy & Harman in settlement for silver contained in unrefined silverbearing materials submitted to them for refining. It is determined on the basis of offers of bar silver .999 fine as made to Handy & Harman for nearby delivery at New York by regular suppliers in quantities sufficient to meet daily requirements, and it is usually one quarter cent below the price at which such offers are made.

The Treasury's purchase price of newly mined domestic silver was established at 90.5c per troy ounce, 1000 fine, effective on July 1, 1946 under an amendment to the Silver Purchase Act of July 6, 1939.

London silver quotations are in pence per troy ounce, basis .999 fine.

London gold quotations are per troy ounce, basis 1000 fine.

Sterling, in cents, N. Y. Federal Reserve Bank average of noon buying rates.

London Metal Exchange

May	COPPER Cash Bid	COPPER Cash Asked	COPPER 3 Mo. Bid	COPPER 3 Mo. Asked	LEAD Current Month Bid	LEAD Current Month Asked	LEAD 3 Mo. Bid	LEAD 3 Mo. Asked	ZINC Current Month Bid	ZINC Current Month Asked	ZINC 3 Mo. Bid	ZINC 3 Mo. Asked	TIN Cash Bid	TIN Cash Asked	TIN 3 Mo. Bid	TIN 3 Mo. Asked
17	341	341½	331	331½	111¾	112¼	110¾	110½	94¾	95¼	92⅝	93	753	754	753	755
18	343	343½	334½	335	113¼	113½	111½	111¾	95¾	96	93¼	93⅝	751½	752	752	752½
21							Holiday									
22	337½	338	330	331	113	113¼	111¼	111½	95¼	95½	92½	92¾	750	752	751	752
23	325	326	319½	320	111½	112	109¾	110¼	93½	93¾	91	91¼	755	756	754½	755½

Prices are for the official a.m. session in pounds sterling per ton of 2240 lb. Copper basis wire bars, lead 99.97%, zinc 98% and tin min. 99.75%.

THIS WEEK'S BUSINESS INDICATORS

	Latest Week	Preceding Week	Month Ago	Year Ago	Net Change Year Ago
Steel Rate (% of capacity in operation)	(d) 96.6	(a) 95.3	100.5	96.4	+.2
Steel Ingot Production, thousands of tons	(d) 2,379	(a) 2,345	2,473	2,326	+53
Automobile Production (cars and trucks)	(d) 141,957	(a) 141,513	167,634	221,936	−79,979
Electric Power Output (millions kwh.)	10,837	10,815	10,918	9,673	+1,164
Engr'g Const. Awards, 4-week daily av., in thousands (c)	$64,883	$73,871	$77,863	$71,939	−$7,056
Federal Reserve Index of Industrial Production (e)	142 Apr.	.....	141	136	+6
E&MJ Index of Nonferrous Metal Prices (b)	246.10 Apr.	.....	248.10	207.34	+38.76
All Commodities, Bureau of Labor Statistics (e)	113.3 Apr.	.....	112.8	110.5	+2.8

(a) Revised. (b) 100 is composite of 1922-3-4. (c) From Eng. News-Record. (d) Preliminary. (e) Base period 1947-49

Non-Metallic Minerals

Prices received for non-metallic minerals vary widely and depend upon the physical and chemical characteristics of the commodity. Hence the following quotations can serve only as a general guide to the prices obtained by producers and dealers in different parts of the United States for their own product.

Tons of 2,000 lb unless otherwise noted.

ASBESTOS—Per short ton, f.o.b. mines Quebec, U. S. funds:

Crude No. 1 $1,400@$1,725; Crude No. 2 $750@$1,100.

Spinning fibers: 3-F $565@$650; 3-K $460@$485; 3-R $408@$410; 3-T $380@$385; 3-Z $350@$353.

Shingle stock, 4-K, $190@$210; Paper stock, $114@$137; Waste, $82@$84; Shorts, $28@$75.

Per short ton, f.o.b. Vancouver, B.C., U. S. funds eff. Jan. 1:

Spinning fiber, AAA-$750 (3-K) $460; shingle fiber (4-K) $205 (corrected), AC-$300.

Per ton, f.o.b. Morrisville, Vt.:

Spinning fiber, $353@$383, shingle fiber, $172@$190; paper fiber, $114@$145; waste, stucco or plaster, $82; refuse or shorts, $39@$72.

BARYTES — F.o.b. cars.

Georgia: Barytes ore, crude, jig and lump, $18 per net ton; beneficiated, $21 per net ton, in bulk, $23.50@$25 in bags.

Missouri: Per ton, water ground and floated, bleached, $45, carlots, f.o.b. works. Crude, oil well grade, 4.3 specific gravity, $11.50. Crude ore, minimum 94% $BaSO_4$, less than 1% iron, $16.

Canada: Crude, in bulk, f.o.b. shipping point, $11 per long ton; ground, in bags, $16.50 per short ton.

BAUXITE — Per long ton. Domestic ore chemical, crushed and dried, 55 to 58% Al_2O_3, 1.5 to 2.5% Fe_2O_3, $8.00@$8.50, f.o.b. Alabama and Arkansas mines. Other grades, 56 to 59% Al_2O_3, 5 to 8% SiO_2, $8.00@$8.50, f.o.b. Arkansas mines. Pulverized and dried, 56 to 59% Al_2O_3, 8 to 12% SiO_2, $14@$16, f.o.b. Arkansas mines. Abrasive grade, crushed and calcined, 80 to 84% Al_2O_3, $17, f.o.b. Arkansas mines. Crude (not dried) 50 to 52%, $5.00@$5.50, f.o.b. Arkansas mines.

Imported bauxite, calcined, crushed (abrasive grade) 86% min. Al_2O_3, $19 per long ton, f.o.b. port of shipment, Br. Guiana. Refractory grade bauxite, $24.20.

CORUNDUM—Per ton, crude, c.i.f. U.S. ports, $100 to $120, nominal.

FELDSPAR — per ton, f.o.b. point of shipment, N. C., bulk: 200 mesh, $18.50; 325 mesh, $22.50; glass, No. 18 grade, $12.50; semi-granular, $11.75.

FLUORSPAR—Metallurgical grade, effective CaF_2 content, per short ton, f.o.b. shipping point Illinois and Kentucky:

	Short Ton
72½%	$33.00@$35.00
70%	$32.00@$34.00
60% plus	$28.00@$30.00
Pellets, 65%	$28@$30

Acid grade concentrates, per short ton, bulk, carload lots:

F.o.b. Rosiclare, Ill., $47.50.

Ceramic grade, 95% CaF_2, $43@$45; 93%-94% CaF_2, calcite and silica variable; Fe_2O_3 0.14%, $41@$43 per short ton, in bulk, f.o.b. Rosiclare. In 100-lb paper bags, $4@$5 extra.

European fluorspar c.i.f. U.S. ports, duty paid, per short ton: Metallurgical grade, 72½% effective CaF_2, $32@$34; acid grade, $50.00@$52.50, nominal.

Mexican fluorspar, f.o.b. border, metallurgical, 72½% effective CaF_2 content, all rail, duty paid, $26 per short ton; barge, Brownsville, Tex., $28@$28.50.

GRAPHITE — Per lb, carload lots, f.o.b. shipping point:

Crystalline flake, natural; 85-88% C, crucible grade, 13c; 96% C, special and dry usage, 22c; 94% C, normal and wiredrawing, 19c; 98% C, special for brushes, etc., 26½c.

Amorphous, natural, for foundry facings, etc., up to 85% C, 9c.

Madagascar, c.i.f. New York, "standard grades 85 to 87% C," $235 per ton; special mesh $260; special grade 99% C, nominal.

Amorphous graphite, Mexican, f.o.b. point of shipment (Mex.), per metric ton $9@$18 depending on grade.

KYANITE—Per ton f.o.b. point of shipment, Va. and S.C., 35 mesh, carload lots, in bulk $29; in bags $32. For 200 mesh, in bags, carload lots, $40.

Imported kyanite, 60% grade, in bags, c.i.f. Atlantic ports $76@$81 per short ton.

MAGNESITE—Per ton, f.o.b. Chewelah, Wash., dead burned grain, in bulk $40; in bags $45.75.

MICA — Prices prevailing in the North Carolina district for clear sheet mica, per pound, follow:

Size	Per Pound
1½ x 2 inch	.70 to $1.10
2 x 2 "	$1.10 to $1.60
2 x 3 "	$1.60 to $2.00
3 x 3 "	$1.80 to $2.30
3 x 4 "	$2.00 to $2.60
3 x 5 "	$2.60 to $3.00
4 x 6 "	$2.75 to $4.00
6 x 8 "	$4.00 to $8.00

Punch mica, 7c@12c per pound, according to size and quality.

Stained or electric sheet mica is being sold at approximately 10 to 20% lower than for clear.

North Carolina, wet ground, $140 to $155 per ton, depending on fineness and quantity. Dry ground, $32.50 to $70. Scrap, $25 to $30, depending on quality.

Madagascar sheet mica first quality high heat, duty paid, New York, per lb:

Grade 7 (below 1 sq in.) 50c; Grade 6 (1 to 1½) 85c; Grade 5 (3 to 6) $1.20; Grade 4 (6 to 10) $1.50; Grade 3 (10 to 14) $1.90.

MONAZITE — Per lb, c.i.f. U. S. ports, 55% total rare earth oxides, including thorium, massive, 14c. Sand, 55% grade, 15c; 66%, 18c; 68%, 20c. Nominal.

OCHER — Per ton, f.o.b. Georgia mines, $26.50@$30.00 in 100-lb paper bags.

F.o.b. Virginia, dark yellow, 300 mesh, 60% ferric oxide, in bags, $24.50@$25.50.

PHOSPHATE — Per long ton, f.o.b. mines:

Florida, pebble; 77@76% $7.00; 75@74%, $6.00; 72@70%, $5.00; 70@68%, $4.35; 68@66%, $3.95.

POTASH — Per unit, f.o.b. mines. Muriate, 43@45½c, basis 60% K_2O; manure salt, 21c, basis 22% K_2O.

PYRITES — Spanish 48% sulphur c.i.f. U.S. ports, not quoted.

Domestic and Canadian pyrites, per long ton, nominal at $9@$11, delivered to consumer's plant.

PUMICE STONE — per lb f.o.b. New York or Chicago, in barrels, powdered 3@5c; lump, 6@8c.

QUARTZ ROCK CRYSTALS—For fusing, all sizes, $100@$150 per ton. Prisms for piezo-electrical and optical use $4.50 to $50 per pound, according to size and grade.

SILICA — Per ton, air-floated, 92-99½% through 325 mesh, in bags, $22 to $35. Glass sand, f.o.b. producing plant, $1.50@$5 per ton, bulk, depending on grade, etc.

SULPHUR — Per long ton for domestic market, prime, $26.50 f.o.b. mines.

TALC—Per ton carload lots, f.o.b. works, containers included unless otherwise specified:

(Continued on page 15)

International Minerals and Metals Corporation

11 BROADWAY, NEW YORK 4, N. Y.

COPPER, ZINC

BUYERS

ORES, CONCENTRATES
SCRAP, RESIDUES
FOR PHELPS DODGE PLANTS
in Laurel Hill, L.I., N.Y.
Douglas, Arizona — El Paso, Texas
FOR NATIONAL ZINC COMPANY
(Subsidiary)
Bartlesville, Oklahoma

SELLERS

COPPER (ELECTROLYTIC)
CADMIUM
ZINC AND BY-PRODUCTS
MERCURY

SLAB ZINC

★ ELECTROLYTIC
Special High Grade
High Grade
Continuous Galvanizing Line Grades

★ FIRE RETORT
High Grade
Intermediate
Continuous Galvanizing Line Grades
Brass Special
Select
Prime Western

American Zinc sales company

Distributors for AMERICAN ZINC, LEAD & SMELTING COMPANY
Columbus, Ohio ★ Chicago ★ St. Louis ★ New York ★ Detroit ★ Pittsburgh

Non-Metallic Minerals

(Continued from page 14)

New Jersey: Mineral pulp, ground, $10.50@$12.50, bags extra.

New York: Double air-floated, short fiber, 325 mesh, $18@$20.

Vermont: 100% through 200 mesh, extra white, bulk basis, $12.50; 99½% through 200 mesh, medium white, $11.50@$12.50. Packed in paper bags, $1.75 per ton extra.

Virginia: 200 mesh, $10@$12; 325 mesh, $12@$14; crude, $5.50.

TRIPOLI — Per ton, paper bags, minimum carload 30 tons, f.o.b. Missouri: Once ground through 40 mesh, rose and cream colored, $50.00. Double ground through 110 mesh, rose and cream, $52.00; air-floated through 200 mesh, $55.00.

VERMICULITE — Per ton, f.o.b. mines, Montana, $9.50@$18.00. South African crude, $30@$32, c.i.f. Atlantic ports.

Georgia: 98% through 200 mesh, gray, $10.50@$11; white, $12.50@$15, packed in paper bags.

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Titanium Extrusions For Jets

Reynolds Metals Co. has delivered its first commercial order of titanium extrusions, it was announced recently by J. Louis Reynolds, executive vice president. The extrusions were delivered to a jet engine manufacturer.

Norwegian Metal Output

OSLO (Reuters): Output of copper ore and concentrate in Norway improved slightly to 26,863 tons in 1955 from 26,672 in the preceding year, while that of refined copper rose to 13,495 tons from 12,887 tons. Lead-zinc concentrate production totaled 15,562 tons against 12,405, while refined zinc output was 44,186 tons against 43,341 tons. Aluminum output showed a sharp advance to 74,960 tons from 64,974, but was considerably below rated plant capacity of 95,000 tons because of power shortages. Nickel output was raised to 18,498 tons from 17,242 tons.

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Industrial Output in Japan

Tokyo (McGraw-Hill World News) — Mining and manufacturing in Japan in fiscal 1955 was up 12.2% over the previous fiscal year, according to the Ministry of International Trade and Industry.

The production index of the mining and manufacturing industries based on the standard year of 1950, which stood at 199.1 in April 1955, continued to rise throughout the last year, registering 221.9 in March 1956.

MITI said this was due mainly to increased exports and steady demand for consumer goods at home.

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Salo Katzman

Salo Katzman, 52, a vice president of Associated Metals and Minerals Corp., died May 17 after a brief illness.

A native of Germany, he spent 32 years in the metal business.

He is survived by his wife, Marga, a son and two brothers. His home is in Riverdale, N. Y.

Colombia's Mining Output 1955

Bogota (McGraw-Hill World News): Ministerio de Minas y Petroleos has released the following figures on Colombia's mining output in 1955 with comparative figures for 1954:

Minerals	Unit	1954	1955
Natural Asphalt	metric tons	750	600
Sulphur	metric tons	5,200	5,500
Baryta	metric tons	9,000	6,000
Calcite	metric tons	500	700
Iron in ingots	metric tons	84,000	348,980
Mercury	metric lb	...	2,700
Gold	Troy oz	377,467	380,824
Silver	Troy oz	112,354	112,036
Platinum (exports)	Troy oz	28,465	27,256
Gypsum	metric tons	15,000	22,000

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New Soviet Aluminum Plant

LONDON (Reuters): Preparatory work for the construction of what will be one of the largest aluminum plants in the USSR is being carried out in the neighborhood of Irkutsk, according to reports reaching London. The plant will be supplied with cheap power from a hydroelectric plant to be built close by. It is proposed to construct a further three aluminum plants in Siberia over the next five years.

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Indonesian Tin Production

DJAKARTA (Reuters): The output from Indonesia's tin mines at Banka Billiton and Singkep totalled 6,172.4 long tons in the first quarter of this year, according to official figures released here. During the same period last year output was 7,215 long tons.

Meanwhile, Indonesian tin-in-ore shipments in March totalled 2,360 tons, all of which went to the Netherlands.

copper
Electrolytic NEC* CCC*

zinc
99.99+% Electric*
High Grade Electrolytic

lead
Common Desilverized ILR*

aluminum
Pig • Ingot

NODULIZED MANGANESE ORE
FERROMANGANESE STANDARD GRADE
CADMIUM • SILVER • BISMUTH • INDIUM
Arsenic • Palladium • Platinum • Selenium • Tellurium

ANACONDA from mine to consumer

Anaconda Sales Company
25 Broadway, New York 4, New York
Subsidiary of The Anaconda Company

*Reg. U. S. Pat. Off.

50265 (REV)

Refractories

CHROME BRICK — Per ton f.o.b. shipping point: Chemically bonded Balt. $91, Calif. $101¼, burned, $85.

FIRECLAY BRICK—Per M, first quality, $122.00, Missouri, Kentucky, Pennsylvania; high heat quality, $107.00. Ohio, intermediate grade, $107.00; second quality, $98.00.

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Iron, Steel, and Coke

PIG IRON — Per gross ton Valley furnaces: Bessemer, $59.50; basic, $58.50, and No. 2 foundry, $59.00.

STEEL — Per net ton, f.o.b. mill, Pittsburgh, billets and slabs, $68.50; Bars per 100 lb., $4.65; plates and structural shapes, $4.50@$4.60.

COKE — Per ton, Connellsville furnace, $14.125; foundry, $16.50.

STEEL SCRAP — Per gross ton, delivered Pittsburgh, No. 1 heavy $50, No. 2 heavy $44, Cleveland, No. 1 heavy $51, No. 2 heavy $44.

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Brass and Bronze Ingot

85-5-5-5 (No. 115) 39c; 80-10-10 (No. 305) 42¼c; 88-10-2 (No. 215) 50c. Yellow, (No. 405) 30¾c; and upward. Manganese bronze (No. 420) 34¼c.

Tri-State Concentrates

Joplin, May 22, 1956

(a) *Blende*	*Per Ton*
Prime coarse (60% zinc)	$84.00
Flotation, 60% zinc	$84.00

(a) Effective Jan. 9, 1956

Galena	
Coarse and flotation, 80% lead	(a) $201.32

(a) Effective Jan. 16, 1956

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Smelters' Aluminum Alloys

Delivered prices of smelters' aluminum ingot per pound, in lots of 10,000 lb. or more.

Piston alloy D132, 27@28c, No. 12 alloy, 24½@25¼c; No. 13 alloy, max. .30 copper 26½@27c.

Deoxidizing grades: No. 1, 25@26c; No. 2, 24¼@25c; No. 3, 23½@24c; No. 4, 23@23½c.

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Lead Average (Monterrey)

The net price realized by the American Smelting & Refining Co. on all of its sales of Mexican pig lead, including metal sold for consumption in Mexico, during the week ended May 19, 1956, was 13.27c (U.S.) per lb, f.o.b. refinery Monterrey, Mex.

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Smelters' Copper Scrap Prices

Custom smelters' buying prices for scrap, carload lots, refinery:
No. 1 copper and wire, 36c; No. 2, heavy copper, 34½c; light copper, 32c; refinery brass, 32½c.

Dealers' Scrap Prices

Dealers' buying prices, f.o.b. New York or equivalent freight points, for wholesale quantities, in cents per lb.

No. 1 copper wire	35
Heavy copper & wire, mixed	32@32½
Light copper	30@30½
No. 1 composition	27½@28
Composition turnings	26½@27
Light brass	16@16½
Yellow brass turnings, mix	15@15½
Heavy yellow brass, mixed	18½@19
Auto radiators, unsweated	20@20½
Brass pipe, cut	22½@23
Rod brass turnings, No. 1	21@21½
Rod ends, brass	22½@23
New soft brass clips	23½@24
Cast aluminum, mixed	13@13½
Aluminum crankcases	13@13½
Aluminum clips, new soft	15½@16
Sheet aluminum, old clean	12½@13
Aluminum turnings, clean	8@8½
Zinc die cast, mixed	3
Zinc die cast, new	5
Old zinc	5@5½
New zinc clips	8@8½
Soft or hard lead	12½@13
Battery plates	7@7¼
Babbitt mixed	13½@14
Linotype or stereotype	13½@14
Electrotype	13@13½
Solder joints close cut	18½@19
Block tin pipe	83@84
Autobearing babbitt	42@42½
Monel clips, new	80@90
Monel sheet, clean	80@90
Nickel, rod ends	175@200
Nickel, clippings	175@200